

# UNITED STATES NUCLEAR REGULATORY COMMISSION

# REGION II 245 PEACHTREE CENTER AVENUE NE, SUITE 1200 ATLANTA, GEORGIA 30303-1257

August 3, 2011

Mr. Joseph A. (Buzz) Miller Executive Vice President Southern Nuclear Operating Company 241 Ralph McGill Blvd. BIN 10232 Atlanta, GA 30308-3374

SUBJECT: SOUTHERN NUCLEAR OPERATING COMPANY VOGTLE ELECTRIC

GENERATING PLANT UNITS 3 and 4 - NRC INSPECTION REPORT

05200011/2011-007

Dear Mr. Miller:

On June 30, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Vogtle Electric Generating Plant Units 3 and 4. The enclosed inspection report documents the inspection results, which were discussed on June 30, 2011, with you and members of your staff.

The inspection examined the quality assurance (QA) program activities conducted under your early site permit (ESP) and limited work authorization (LWA) as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your ESP. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. This inspection completed the first year's QA inspection of LWA activities. Only the portions of the procedures that were applicable to activities conducted under SNC's ESP and limited work authorization were reviewed.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS).

ADAMS is accessible from the NRC Website at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a> (the Public Electronic Reading Room).

Sincerely,

/RA/

David A. Ayres, Chief Construction Projects Branch 4 Division of Construction Projects

Docket No. 52-00011 Early Site Permit No. ESP-004

Enclosure: NRC Inspection Report 052-00011/2011-007

cc w/encl: (See page 3)

ADAMS is accessible from the NRC Website at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a> (the Public Electronic Reading Room).

Sincerely,

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David A. Ayres, Chief Construction Projects Branch 4 Division of Construction Projects

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cc w/encl: (See page 2)

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SIGNATURE	LSM	Via Email	Via Email	Via Email		
NAME	LMellen	R . Jackson	G. Gardner	T. Stedham		
DATE	7/7/2011	7/ 7 /2011	7/8/2011	7/6/2011		
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO		

#### cc w/encl:

Resident Manager Oglethorpe Power Corporation Alvin W. Vogtle Nuclear Plant 7821 River Road Waynesboro, GA 30830

Office of Attorney General Law Department 132 Judicial Building Atlanta, GA 30312

Lucious Abram Commissioner – Burke's County Commissioner P.O. Box 1626 Waynesoro, GA 30830

Anne F. Abbleby
Oglethorpe Power Corporation
2100 East Exchange Place
Tucker, GA 30084

Ms. Michele Boyd
Legislative Director
Energy Program
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

County Commissioner
Office of the County Commissioner
Burke County Commission
Waynesboro, GA 30830

Director
Consumer's Utility
Counsel Division
Governor's Office of Consumer Affairs
2 Martin Luther King, Jr. Drive
Plaza Level East, Suite 356
Atlanta, GA 30334-4600

Mr. James C. Hardeman Environmental Radiation Program Manager Environmental Protection Division Georgia Dept. of Natural Resources 4220 International Pkwy, Suite 100 Atlanta, GA 30354-3906 Lisa Higdon Southern Nuclear Op. Co. Document Control Coordinator 42 Inverness Center Parkway Attn: B235 Birmingham, AL 35242

Rita Kilpatrick 250 Arizona Ave. Atlanta. GA 30307

Mr. Reece McAlister Executive Secretary Georgia Public Service Commission Atlanta, GA 30334

Mr. James H. Miller President and Chief Executive Officer Southern Nuclear Operating Company P.O. Box 1295 Birmingham, AL 35201

Mr. Joseph A. (Buzz) Miller Executive Vice President Southern Nuclear Operating Company 241 Ralph McGill Blvd BIN 10232 Atlanta, GA 30334

Resident Inspector Vogtle Plant 8805 River Road Waynesboro, GA 30830

Elaine Sikes Burke County Library 130 Highway 24 South Waynesboro, GA 30830

Mr. Jerry Smith
Commisisoner
District 8
Augusta-Richmond County Commission
1332 Brown Road
Hephzibah, GA 30815

cc cont. (See next page)

cc cont. Gene Stilp 1550 Fishing Creek Valley Road Harrisbury, PA 17112

Mr. Robert E. Sweeney IBEX ESI 4641 Montgomery Avenue Suite 350 Bethesda, MD 20814

George B. Taylor, Jr. 2100 East Exchange Pl. Atlanta, GA 30084-5336

# cc email distribution:

Amy Aughtman

Ann Baker

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Adrian Heymer

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Matias Travieso-Diaz

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Letter to Mr. Joseph A. (Buzz) Miller from David A. Ayres dated August 3, 2011.

SUBJECT: SOUTHERN NUCLEAR OPERATING COMPANY VOGTLE ELECTRIC

GENERATING PLANT UNITS 3 and 4 - NRC INSPECTION REPORT

05200011/2011-007

# Distribution w/encl:

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# U.S. NUCLEAR REGULATORY COMMISSION REGION II

Docket No: 52-00011

License No: ESP-004

Report No.: 05200011/2011007

Licensee: Southern Nuclear Operating Company (SNC)

Facility: Vogtle Electric Generating Plant Units 3 and 4

Location: Burke County, GA

Inspection Dates: June 27 through June 30, 2011

Inspectors: Larry Mellen, Senior Construction Project Inspector, CPB4

George Gardner, Senior Construction Project Inspector, CPB2

Rahsean Jackson, Senior Construction Inspector, CIB2

Timothy Steadham, Construction Inspector, CIB3

Accompanying Personnel:

Eric Patterson, Construction Project Inspector, CPB2 Mike Magee, Construction Project Inspector, CPB4 Chad Huffman, Construction Project Inspector, CPB4 Andrew Lerch, Construction Project Inspector, CPB2

Anthony Ponko, Construction Inspector, CIB2

Approved by: David A. Ayres, Chief

Construction Projects Branch 4 Division of Construction Projects

#### **SUMMARY OF FINDINGS**

Inspection Report (IR) 05200011/2011007 Vogtle Electric Generating Plant (VEGP) Units 3 and 4

The report covered an announced construction inspection performed by a team of regional based inspectors. This inspection was conducted using Inspection Procedure (IP) 35007, Quality Assurance Program Implementation during Construction, Revision 1 and IP 40504, Part 52, Identification and Resolution of Construction Problems. Only the portions of the procedures that were applicable to activities conducted under SNC's early site permit (ESP) and limited work authorization were reviewed. The sample sizes described in the IPs are only applicable after the COL is issued.

The Nuclear Regulatory Commissions' (NRC's) program for the inspection of construction and operational programs is described in Inspection Manual Chapter 2504, Construction Inspection Program – Inspection of Construction and Operational Programs.

A. NRC-Identified Findings and Licensee Identified/Self-Revealing Violations Evaluated as Findings.

No findings of significance were identified.

B. Licensee-Identified and Self-Revealing Violations Not Evaluated as Findings

None

#### **REPORT DETAILS**

#### A. CONSTRUCTION PROGRAM-RELATED INSPECTIONS

Inspection of Quality Assurance implementation and program activities was conducted in accordance with IP 35007 Rev. 1. This was the final QA inspection in this assessment period. Applicable portions of IP 40504, Part 52, Identification and Resolution of Construction Problems will also be reviewed within the scope of Criteria 16, "Corrective Actions"

The inspectors reviewed quality assurance (QA) procedures, instructions, and other documents (collectively: implementing documents) to determine if they were consistent with the licensee's NRC-approved QA program description (QAPD) as referenced in the licensee's Site Safety Analysis Report (SSAR) and in accordance with the 18 criteria of Appendix B to 10 CFR Part 50 as detailed below.

# Criterion 1, "Organization"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 1, "Organization" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD, QAPD implementing documents, and SSAR to determine whether appropriate implementing documents had been developed to address the QAPD requirements and SSAR commitments for organization. The review included an examination of organizational structure, functional responsibilities and duties of staff and levels of authority. The review also included determining whether the QA organization reported to management at a level sufficiently high to ensure independence of cost and schedule considerations and had the authority and organizational freedom to implement assigned responsibilities.

The inspectors reviewed SNC's delegation of specific responsibility and authority for planning, establishing, and implementing portions of the QA program to Shaw.

The inspectors reviewed the delegation of work and authority within and outside SNC's organization, management controls and lines of communication between licensee and delegated organization, and direct access and lines of communication with levels of management for all licensee staff.

The inspectors reviewed the licensee's evaluation of the overall effectiveness of the QA program, including whether activities affecting safety-related and important-to-safety functions were performed by independently checking, auditing and inspecting the activity. The review also included determining whether the organization identified quality problems; initiated, recommended or provided solutions to those problems, and confirmed implementation of solutions.

The inspectors interviewed personnel and examined QA program implementing documents and associated records to determine whether the SNC/Shaw QAPD and the associated implementing documents met all of the requirements of 10 CFR 50 Appendix B.

Additionally, the inspectors interviewed personnel who performed activities that met quality objectives and who performed specific QA functions to determine whether they had an adequate understanding of the program and their roles.

<u>Findings</u>: No findings of significance were identified.

# Criterion 2, "Quality Assurance Program"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 2, "Quality Assurance Program" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed selected work plans to determine if they were approved by the appropriate personnel. The inspectors also interviewed personnel to determine if they could identify the work plans that addressed the activities they were performing.

The inspectors examined the structure of the licensee's QA program to determine if the functions of the major organizations participating in the QA program were adequately described.

The inspectors reviewed the current schedule for management evaluations to determine if it included recently completed assessments and planned assessments, whether the assessments were performed on schedule and were documented, and if assessment results and recommendations were reviewed by management having responsibility for the area evaluated.

The inspectors examined any conditions adverse to quality that were identified as a result of the assessment to determine if they were promptly brought to the attention of the appropriate level of management and entered into the corrective action program. Corrective actions were reviewed to evaluate whether they effectively addressed the issue documented in the assessment report.

<u>Findings</u>: No findings of significance were identified.

# Criterion 3, "Design Control"

<u>Scope:</u> The inspectors reviewed the SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 3, Design Control" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed a sample of Engineering & Design Coordination Reports (E&DCR), Nonconformance & Disposition Reports (N&D), and Quality Assurance Inspection Reports (QAIR) to determine if they were consistent with the requirements of NQA-1 and the QA program and to determine if the selected sample of field changes

received the proper level of engineering review in accordance with licensee procedures. In addition, the inspectors reviewed the affected drawings and analyses to determine if they were properly identified and the affected design documents remained applicable with valid design assumptions.

The inspectors reviewed the E&DCRs, N&Ds, QAIRs, and implementing QA documents to determine if they were updated or were in the process of being updated to reflect the design changes. Material substitutions were reviewed to determine if they were documented and evaluated in accordance with applicable procedures. The inspectors reviewed the applicable critical characteristics of the subject material to determine if they were evaluated and appropriately documented in accordance with the applicable procedures.

<u>Findings</u>: No findings of significance were identified.

# Criterion 4, "Procurement Control"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 4, "Procurement Control" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR to determine if appropriate implementing documents had been developed to address the QAPD requirements and SSAR commitments for procurement document control for purchases of safety related and risk significant items and services. The inspectors reviewed the implementing documents to determine if they provided the scope of work, technical, regulatory, and administrative requirements, specific identification or traceability of services, hold points, acceptance requirements, access for audits, and identification of required documentation.

The inspectors reviewed the implementing documents to determine if they contained requirements for the licensee's contractor to provide a QA program consistent with Appendix B to 10 CFR Part 50 and for reporting and approving disposition of non-conformances.

The inspectors reviewed applicable sections of the QAPD and implementing documents to determine if they provided measures and assigned responsibilities in writing for items including initiation of procurement documents, appropriate review and approval of specifications and procurement documents.

The inspectors reviewed a representative sample of procurement documents to determine if the documents were appropriately prepared, that the items/services were purchased from qualified contractors, and that the procurement documents contained appropriate requirements.

Findings: No findings of significance were identified.

#### Criterion 5, "Instructions, Procedures and Drawings"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 5, "Instructions, Procedures, and Drawings" to determine if they

were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR to determine if appropriate QA program documents were developed to address the QAPD requirements and SSAR commitments for documentation and record retention.

The inspectors reviewed selected instructions, procedures, and drawings to determine if they were created, revised and maintained using proper procedures. The inspectors also interviewed personnel to determine if they followed the proper procedures when executing and changing instructions, processes, and drawings.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR to determine if appropriate QA program documents were developed to address the QAPD requirements and SSAR commitments for preparing changes to implementing documents.

The inspectors reviewed a representative sample of revised or modified controlled implementing documents to determine if a reason for the change was described, and to determine if the change was at the location where work was being performed.

<u>Findings</u>: No findings of significance were identified.

# Criterion 6, "Document Control"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 6, "Document Control" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR to determine if appropriate implementing documents had been developed to address the QAPD requirements and SSAR commitments for review, approval and issuance of controlled documents.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR to determine if implementing documents have been developed to address the QAPD requirements and SSAR commitments for revision, modification, and/or supersession/cancellation of controlled documents.

The inspectors reviewed a representative sample to determine if the licensee had an electronic or paper copy system for issuing, distributing, and cancelling controlled documents.

The inspectors reviewed a representative sample to determine if the controlled documents were reviewed and approved by independent, authorized personnel. The inspectors reviewed a representative sample of revised controlled documents to determine if the documents were reviewed and approved by the same organization that reviewed and approved the original document.

The inspectors interviewed the licensee staff and contractors at various work locations to determine if they had access to the current controlled implementing documents that they needed to conduct the activity.

Findings: No findings of significance were identified.

# **Criterion 7, "Control of Purchased Material Equipment, and Services"**

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion. 7, "Control of Purchased Material Equipment, and Services" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR, to determine if appropriate implementing documents were developed to address the QAPD requirements and SSAR commitments for acceptance of items and services and for evaluation, selection, and placement of contractors on an approved supplier list (ASL) to include Audit/surveillance of potential contractor for placement on the ASL.

The inspectors reviewed a representative sample of safety related items and services that were procured from contractors. The inspectors selected a representative sample of items and services that required only documentation as the deliverable to determine if the contractor of safety-related items or services was on the ASL. The inspectors also reviewed the documentation of the item to determine if it was examined for conformance with requirements specified in the procurement document and it was tagged/marked as acceptable for use.

The inspectors reviewed a representative sample of procurement documents to determine if all items and services stated in the procurement document were received.

<u>Findings</u>: No findings of significance were identified.

## Criterion 8, "Identification and Control of Material Parts and Components"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 8, "Identification and Control of Material Parts and Components" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors selected the waterproof membrane materials that were in storage at the time of the inspection to review. The inspectors examined associated records and other documentation that identified these items to determine if the items were properly identified and controlled in accordance with implementing documents. The inspectors also reviewed traceability of the items to determine if they were consistent and accurate from identification of the item through the resultant documentation and use of the item, including installation.

The inspectors reviewed item identification methods to determine if they used physical markings to the maximum extent possible.

The inspectors examined items that required inspection or tests to determine if the status of the inspection or test was indicated in the documentation and the documentation was current and accurate.

Findings: No findings of significance were identified.

# Criterion 9, "Special Processes"

<u>Scope:</u> The inspectors reviewed SNC's QA implementing documents for 10 CFR 50 Appendix B Criterion 9, "Special Processes" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR and implementing documents to determine if they were developed to address the QAPD requirements and SSAR commitments for special processes qualifications, testing, acceptance criteria, and record controls.

<u>Findings</u>: No findings of significance were identified.

# Criterion 10, "Inspection"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 10, "Inspection" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors evaluated a representative sample of inspection documentation for safety related and risk significant non-safety related items that required inspection. The inspectors reviewed inspections to determine if they were performed by qualified individuals other than those who performed or directly supervised the work being inspected. Additionally, the inspectors reviewed the inspections of items to determine if they were performed at the required frequency. The review included determination of completeness, markings, installation, adjustments, protection from damage, or other characteristics. The inspectors also examined inspection documentation to determine if mandatory hold points were complied with and witnessed by the licensee's designated representative. The inspectors reviewed work to determine if it proceeded with written authorization of designated personnel by examining the dates of completion of work and subsequent inspection.

The inspectors reviewed the implementing documents to determine if they were developed to address the QAPD requirements and SSAR commitments for inspections documentation to include travelers, process sheets, and checklists.

Findings: No findings of significance were identified.

# Criterion 11, "Test Control"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 11, "Test Control" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed tests associated with the LWA activities. A representative sample from each construction discipline of the activities was reviewed. These included quality acceptance tests, baseline data checks, and field tests.

Findings: No findings of significance were identified.

# Criterion 12, "Control of M&TE"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 12, "Control of M&TE" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of SNC's SSAR and QAPD documents for recent calibration work. The inspectors reviewed a representative sample of M&TE removed from service and M&TE calibration activities to determine if requirements of proper reporting, documentation, and re-calibration were met.

Findings: No findings of significance were identified.

# Criterion 13, "Handling, Storage, and Shipping"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 13, "Handling, Storage, and Shipping" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors selected the waterproof membrane materials that were in storage at the time of the inspection to review. The inspectors toured warehouse facilities to determine if the items were being properly stored in accordance with applicable implementing documents.

Findings: No findings of significance were identified.

# Criterion 14, "Inspection Test and Operating Status"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 14, "Inspection Test and Operating Status" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed a representative sample of safety related and risk significant non-safety items that required inspections and tests. The inspectors reviewed the inspection report system implementing QA procedures, test inspection plans, test inspection reports and interviewed the quality assurance director, quality control supervisors, and a civil/structural quality control inspectors to determine their knowledge and compliance with the inspection and test reporting procedures. The inspectors reviewed the inspected items to determine if the appropriate authorized personnel conducted the inspections, the associated documentation was accurately completed, and if associated documents were updated to reflect the inspection and test documentation traceability.

Findings: No findings of significance were identified.

# <u>Criterion 15, Nonconforming Materials, Parts, or Components"</u>

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 15, "Nonconforming Materials, Parts, or Components" to determine

if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR to determine if appropriate implementing documents had been developed to address the QAPD requirements and SSAR commitments for the control of nonconforming items. The inspectors reviewed nonconforming items to determine if they were properly marked, correctly dispositioned, and properly documented and communicated to the affected organizations.

The inspectors toured the on-site and off-site warehouse facilities to determine if the licensee had established areas for segregating and controlling non-conforming items.

<u>Findings</u>: No findings of significance were identified.

# Criterion 16, "Corrective Actions"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 16, "Corrective Actions" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's implementing documents to determine if the implementing documents addressed classification, prioritization, and evaluation for reportability (i.e., 10 CFR 50.55(e)) of conditions adverse to quality. The inspectors observed program implementation to determine if the licensee could completely and accurately identify problems in a timely manner commensurate with the significance and ease of discovery and appropriately screen items entered into the corrective action program.

The inspectors reviewed the item screening process to determine if it included identification, correction, extent of condition, generic implications, common cause, and previous occurrences. The inspectors also reviewed the corrective action program to determine if the licensee could appropriately classify and prioritize issues, identify root and contributing causes, identify corrective actions, complete corrective actions in a timely manner, and had provisions for escalating items higher management for additional review.

The inspectors screened the corrective action program for risk significant items, and selected a sample for a more in-depth focused review. The inspectors reviewed a representative sample of conditions and significant conditions adverse to quality, which were in the licensee's corrective action program.

The inspectors reviewed the results of the March 2011 SNC audit of the Shaw corrective action program, and compared the results of the audit with the results developed through inspection.

The inspectors interviewed a representative sample of licensee personnel to determine if they were trained and could accurately demonstrate their knowledge of the corrective action program and to determine if the personnel had any issues that might hinder the willingness of individuals to identify issues within the corrective action program or allow for effective resolution.

<u>Findings</u>: No findings of significance were identified.

# Criterion 17, "Quality Assurance Records"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 17, "Quality Assurance Records" to determine if they were consistent with the NRC-approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors selected a representative sample of implementing documents that described the processes for general records creation, maintenance, storage, and disposition to determine if the implementing documents addressed record accuracy, record correction, record storage, and record disposal.

The inspectors selected a representative sample of implementing documents that provided specific instructions for the creation of designated records that supported the implementation of the specific activity to determine if the implementing document included specific records to be created to provide evidence that the activity was completed, and contained organizations or personnel responsible for creating and transmitting records to the storage facility.

The inspectors obtained a representative sample of completed individual records or record packages from the implementing documents to determine if the records were authenticated, corrections to the records did not obscure original information on record, and records were transmitted from temporary storage to main storage within the designated period.

The inspectors selected a representative sample of temporary records storage areas to determine if the storage areas were accessible to designated organization or personnel, and were protected from damage and theft.

The inspectors reviewed in-process records and records stored temporarily to determine if they were transferred to the designated personnel when a person left employment or transferred to another unrelated position within the organization.

The inspectors selected a representative sample of the main records storage facilities used for long-term storage of records to determine if the facility was accessible to the designated organization, access to the facility by visitors was controlled, records were readily retrievable, records were protected from damage and theft, records temporarily removed from the storage facility were controlled, and electronic media that included QA records were stored in accordance with designated requirements.

The inspectors reviewed construction-phase QA records stored by contractors to determine if the licensee received the records and whether they were transferred to the licensee within the established schedule.

<u>Findings</u>: No findings of significance were identified.

### Criterion 18, "Audits"

<u>Scope:</u> The inspectors reviewed SNC QA implementing documents for 10 CFR 50 Appendix B Criterion 18, "Audits" to determine if they were consistent with the NRC-

approved QAPD, commitments in the SSAR, and the reference plant 1994 version of NQA-1.

The inspectors reviewed applicable sections of the licensee's QAPD and SSAR to determine if appropriate implementing documents had been developed to address the QAPD requirements and SSAR commitments for conducting internal audits.

The inspectors reviewed the licensee's audit planning and scheduling to determine if the schedule of proposed audits were maintained and provided coverage of applicable aspects of quality-affecting activities, the audit plan was developed and included developing audit checklists, the auditors maintained auditor qualification requirements, the auditor was independent of direct responsibility for activity to be audited, and the specialists received an audit briefing.

The inspectors reviewed the development of audit plans and the licensee's documentation of audit results to determine if the results of audits were documented, reviewed by management, identification and summary of deficiencies and nonconformance were documented, and follow-up audit of areas of deficiency, nonconformance or weakness conducted when determined to be necessary.

Findings: No findings of significance were identified.

# **B. Exit Meeting Summary**

On June 30, 2011, the regional inspectors presented the inspection results to Mr. Jones and other members of his staff. The inspectors asked the licensee whether any of the material reviewed during the inspection that was not returned to the licensee should be considered proprietary. The licensee reviewed while proprietary information was reviewed; all of the material was returned.

#### **KEY POINTS OF CONTACT**

# <u>Licensee personnel</u>

- D. Jones, Site Vice President
- A. Boyles, Document Control
- J. Lackey, Civil/ Structural Q.C.
- C. Holod, Civil/Structural Q.C. Supervisor
- S. Wade, Construction Superintendent
- J. Rees, Deputy Field Engineering Manager
- V. Perez, Engineer
- B. Poppell, Engineering Manager
- B. Bleakly, Field Engineer
- J. Detwiler, Field Engineer
- M. Rutherford, Field Engineering Manager
- S. Woodham, MACTEC Project Coordinator
- J. Martin, MACTEC QA Manager
- D. Oliver, Project Field Procurement Manager
- D. Schulte, QA Engineer
- B. Friscia, QC Supervisor
- D. Barnett, Quality Control
- R. Usher, Shaw Performance Improvement Manager
- W. Chrisler, Shaw Project Quality Assurance Director
- J. Beasley, Shaw Q.C. Engineering Manager
- A. Reynolds, Shaw Q.C. Manager
- R. Barclay, Shaw Q.C.E. Training Supervisor
- D. Salisbury, Shaw QC Supervisor
- K. Khianey, Shaw Site Engineering Manager
- J. Davis, Site Licensing Supervisor
- J. Williams, Site Support Manager
- K. Lowery, Technical Support
- B. Robinson, Warehouse Manager

#### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened	
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None

# Opened and Closed

Closed

### Discussed

None

#### LIST OF DOCUMENTS REVIEWED

### **SNC Procedures**

Nuclear Development Quality Assurance Manual, Rev. 9.2

ND-AD-002 Nuclear Development Corrective Action Program, Version 4.0, 2/25/11

# **Shaw Procedures:**

APIP 5-18-1, WEC Engineering and Design Coordination Report, Rev. 4, 4/4/11

APP-GW-GAP-420 - Engineering and Design Coordination Report - Rev. 4

Memo from A. Reynolds to W. Crisler, Delegation of Signature Authority, 6/23/11

Memo from W. Crisler to D. Dreyfus, Delegation of Signature Authority, 5/19/11

Memo from W. Crisler to Monty Glover, Delegation of Signature Authority, 4/27/11

NCSP 2-19-0 - Work Package Planning, Development, Approval and Closure Procedure

NCSP 2-8-0, Nonconformance Reporting and Control, 08/21/2007

NCSP NCSP 3-4-1, Field Purchase Requisition

NEPP 4-12-1 – Managing Supplier Data

NEPP 4-13, Design change control

NEPP 4-32-2, Engineering Services Scopes of Work, 11/9/10

NEPP 4-7-0, Project Specifications, 2/24/10

NEPP 4-8-2, Support of Procurement, 8/3/10

NPP 6-1-00, Field Procurement

PP 4-1-13, Management Plan for Project Quality, 3/31/11

PP-4-1-13 Management Plan for Project Quality, 3/31/11

QAD 01.8, Quality Assurance - Charter, Rev. N

QAD 01.22, Project Quality Representative - Charter, Rev. H

QAD 02.13 Qualification and Certification of Personnel Performing QA Audits, Rev.F.

QAD 07.14, Receiving Inspection, Rev. B

QAD 07.17, Supplier and Contractor QA Program Manual Reviews and Qualification Audits, Rev. L

QAD 18.11, Post Award QA Audits of Suppliers and Site Contractors, Rev. T

QAD 18.2 Quality Audit Plans Rev.H

QS 02.2 – Management Plans for Project Quality

QS 02.3 – Stop Work Action

QS 03.1 Standard QA Program Requirements in ESSOWs, Rev. O

QS 04.1, Site Procurement and Subcontracts, Rev. D

QS 04.3, Office Procurement and Subcontracting and Selection of Suppliers, Rev. H

QS 06.1 – Document Control

QS 07.1, Receiving Process, Rev. G

QS 07.10, Control of Purchased Material, Equipment, and Offsite Services for Safety Related

QS 10.66, Inspection Planning System, Rev. O

QS 10.67, Inspection Planning System, Rev. O

QS 13.11, Material/Equipment Storage, Rev. C

QS 14.1 Post Acceptance Work Control, Rev. C

QS 14.2, Inspection Report System, Rev. J

QS 15.1, Nonconformance & Disposition Report, Rev, G

QS 15.3, Risk Release of Unsat/Nonconforming Material/Equipment, Rev. F

QS 16.1 Problem Report System Rev. G

QS 16.2 Notifying Clients of Potentially Reportable Deficiencies under 10CF50.55(e), Rev. C

QS 16.3 Identifying and Reporting Defects and Failures to Comply Under 10CFR21, Rev. L

QS 16.5 Corrective Action System, Rev. E

QS 16.6 Causal Analysis, Rev. A

QS 18.1 – Quality Audit Program – Rev.K

QSI 10.1 Inspection Planning and Reporting

SV0-MH90-CC-001 – Vogtle Electric Generating Plant HLD Foundation Layout Plan

SV3-G100-XEW-CV0246 – Unit 3 Nuclear Island Horizontal and Vertical Waterproof Membrane VN3- XC10-CV-MSC-015 – Place Category 1 Backfill U-3 Nuclear Island from Blue Bluff Marl to 180 ft

VN4- XC10-CV-MSC-016 – Place Category 1 Backfill U-4 Nuclear Island from Blue Bluff Marl to 180 ft.

Vogtle Units 3&4 Site Organization as of 5/23/11

World Procurement Procedure WPP 9.0, Nuclear Procurement

# **Corrective Action Documents:**

CAR 2010-08-04-739

CAR 2010-11-23-939

CAR 2010-12-07-967

CAR 2010-12-07-967

CAR 2010-12-21-992

CAR 2011-0018

CAR 2011-0019

CAR 2011-0030

CAR 2011-0058

CAR 2011-0096

CAR 2011-0125

CAR 2011-0137

CAR 2011-0142

CAR 2011-0143

CAR 2011-0157

CAR 2011-0158

CAR 2011-0168

CAR 2011-0168

CR 330893

CR 331955

#### **Engineering & Design Coordination Reports**

EDCR-SVO-AT01-GEF-000001

EDCR-SVO-XE01-GEF-000008

EDCR-SVO-G100-GEF-000009

EDCR-SVO-XE01-GEF-005

EDCR-SVO-XE01-GEF-003

# Nonconformance and Disposition Reports

V-ND-10-0141

V-ND-11-0138

V-ND-11-0130

V-ND-11-0099

V-ND-11-0111

V-ND-11-0126

V-ND-11-0129

V-ND-11-0158

#### **MACTEC Procedures**

NQAP 5-01 – Preparation of a Quality Assurance Project Document

NQAP 5-02 – Preparation of Work Plans

NQAP 5-03 – Preparation of Work Instructions

QAF 16-02A, MACTEC Condition Report

QAPD – Plant Vogtle Units 3 & 4 Soil and Concrete Testing (Project Number: 6153-10-0051)

QS 06 – Document Control

QS 11.1, MACTEC Nuclear Quality Assurance Manual, Rev. 1

RPT-VMD-004 – Class E Concrete Mix Design – Mix B2

VSC5035, Sand Cone Density Test

VSC5085, Sand Cone Sand Test

VSC545

# <u>Audit/Surveillance Documents</u>

Audit No. 2010-03 – Audit of the VC Summer and Vogtle Domestic AP 1000 Projects and the Shaw Domestic AP1000 Module Project April 19-May 5, 2010

Audit No. 2010-05 – Audit of Vogtle Units 3 and 4 Site Activities April 26-29, 2010

ND-10-2206 SNC-Nuclear Development Quality Assurance Audit Report of Shaw Nuclear Services, INC.

ND-11-0724 – Nuclear Development Quality Assurance Limited Scope Audit Report of the Shaw Nuclear Services, INC. and MACTEC Engineering and Consulting, INC.

ND-11-1140 Vogtle Electric Generating Plant 3 and 4 SNC QA Audit of Limited Work Authorization Activities

NIAC Audit 13020 - NIAC Member Assessment of NTS

QA 2011 Site Audit/ Surveillance Schedule (Vogtle Units 3 & 4)

Shaw 2011-2012 Internal Audit Schedule Rev .2 (June 30, 2011)

Shaw Nuclear Services Inc., Quality Assurance Audit of MACTEC Engineering and Consulting, INC., Audit No. V2009 – 13

Shaw Nuclear Services INC., Quality Assurance Audit of MACTEC Engineering and Consulting, INC., Audit No. 2010-10

Shaw Nuclear Services, Inc. Nuclear Power 2010 Quality Assurance Internal Audit Schedule Rev 0.

SNC Audit S-132175-2011-0035, Ni Waterproofing Membrane Material Storage, 5/11/11

#### Miscellaneous Documents

132-J800-09-00015, Nuclear Island Waterproof Membrane Testing

AP1000 Project Specification SV0-AT01-Z0-001, Nuclear Island Waterproofing Membrane, 3/14/11

AP1000 Project Specification: Nuclear Island, Concrete Mudmat SVO-CC02-Z0-001, Rev.2, 3/8/11

AP1000 Project Specification: Safety Related Concrete Mixing, SVO-CC01-Z0-002, Rev. 4 6/1/11

ASTM D 1557-02, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort

CSI 2-11-9 – Work package planning, Development, Approval and Closure Instruction

CSI 2-19-0 – Construction Materials Management

Drawing SV0-1000-XE-019, Vogtle Electric Generating Plant Units 3 & 4 Power Block Backfill Unit 3 Backfill to EL.180, Rev.3, 1/11/11

Drawing SVO-1000-XE-025, Vogtle Electric Generating Plant Units 3 & 4 Backfill to Grade power Block Sections, Rev.3, 8/16/10

Drawing SVO-G100-XE-016, Vogtle Electric Generating Plan Units 3 & 4, Mudmat, Rev.2, 3/10/11

Engineering Services Scope of Work (ESSOW) for Nuclear Island Waterproofing Membrane Testing ESSOW No. 132175-E-C-009-04

ESSOW 132175-E-C-009, Rev23, 2/9/11

F-CH-530-01, S530 Quality Inspection Plan, Rev. 0, Change 1, 4/18/11

Level III certification of qualification for James F. Lackey, 530 protective coatings, 12/9/10

MACTEC Quality Assurance Manual, Rev 1

Record of Auditor Qualification - Fred A. Cella

Record of Auditor Qualification - Michael J. Huss

S530-01-11-0005, Inspection Report, 5/25/11

S530-01-11-0010, Inspection Report, 6/3/11

S530-01-11-0015, Inspection Report, 6/8/11

S530-01-11-0020, Inspection Report, 6/14/11

S530-01-11-0025, Inspection Report, 6/18/11

S530-01-11-0028, Inspection Report, 6/21/11

Shaw Nuclear Island Waterproofing Membrane Specification, SV0-AT01-Z0-001

Shaw Nuclear Quality Rating List, dated 6/22/11

Shaw Nuclear Services, Welding Procedure Specification (WPS), WPS1-1.8T01, Rev 0

Shaw Nuclear Services, WPS, WPS1-1.1T01, Rev 0

Shaw Nuclear Services, WPS, WPS2-1.1T70, Rev 0

Shaw Nuclear Services, WPS, WPS5-10H.10HM70, Rev 1

Shaw Nuclear Services, WPS, WPS5-8.10H.10HM70, Rev 2

Shaw Purchase Order 679188OP

Shaw Purchase Order Number 132175-J800.09, Rev 8

Shaw Purchase Order Number 132175-J800.14, Rev 0

Shaw QA Inspection Report Q445-11-0053, Pre-Stressed Concrete Cylinder Pipe, 3/21/11

Shaw QA Inspection Report Q445-11-0138, NI Waterproofing Membrane, 6/10/11

Shaw QA Inspection Report Q445-11-0144, NI Waterproofing Membrane, 6/10/11

Shaw Quality Inspection Plan, F-Q445-5, Receipt Inspection – NI Waterproofing Membrane, Rev. 0

Shaw Quality Inspection Plan, Nuclear Island Membrane for Mud Mat, 4/18/11

Shaw Requisition No. 132175-J800.09

Shaw Subcontract (Form B) with The Apostolos Group, Inc. (DBA: Thomarios) dated April 19, 20011 (No. 1321751004-1422)

Shaw Subcontract (Form D) For Approval with MACTEC Engineering and Consulting, Inc. dated February 4, 2010 (No. 1321751004-1421)

Shaw Subcontract 1321751004-1422 with Morgan Corporation Power Block Backfill Project February 17, 2010 (No. 1321751004-1422)

Shaw Vogtle 3&4 Design change Document Log Doc. No. 132175, 6/26/11

Stone & Webster Construction, Welder Performance Qualification (WPQ), ID# 1270676

Stone & Webster Construction, WPQ, ID# 1250455

Stone & Webster Construction, WPQ, ID# 1251404

Stone & Webster Construction, WPQ, ID# 1274632

Stone & Webster Construction, WPQ, ID# 1274632

Stone & Webster Construction, WPQ, ID# 1274707

SV0-AT01-GF-800000, Shaw Response to Request for Information

SV0-XE01-20-002 - Nuclear Island Excavation and Backfill Specification - Rev.4

SVO-XE01-GEF-000008 – E&DCR Fill Placement over CWS Pipe- Rev.0

SVP\_SV0\_000857 – Westinghouse Response to ND-11-0724, regarding Southern Nuclear Operating Company Inc's (SNC) Audit Finding Report 2011-1 through 2011-4

# **LIST OF ACRONYMS**

ADAMS Agency-wide Documents Access & Management System

ASL Approved Supplier List

CR Condition Report

E&DCR Engineering & Design Coordination Reports

ESP Early Site Permit

ESSOW Engineering Services Scopes of Work

IP Inspection Procedure IR Inspection Report

ITAAC Inspections, Tests, Analyses, and Acceptance Criteria

LWA Limited Work Authorization
N&D Nonconformance and Disposition
NRC U.S. Nuclear Regulatory Commission
QAIR Quality Assurance Inspection Report

QA Quality Assurance

QAPD Quality Assurance Program Description

QS Nuclear Quality Standard

SNC Southern Nuclear Operating Company

SSAR Site Safety Analysis Report

SSC System, Structure, and Component VEGP Vogtle Electric Generation Plant WEC Westinghouse Electric Corporation